Example B

Post-Emergence Test

Solvent: 5 parts by weight of acetone

Emulsifier: 1 part by weight of alkylaryl polyglycol ether

To produce a suitable preparation of active compound, 1 part by weight of active compound is mixed with the stated amount of solvent, the stated amount of emulsifier is added and the concentrate is diluted with water to the desired concentration.

Test plants which have a height of 5–15 cm are sprayed with the preparation of active compound in such a way as to apply the particular amounts of active compound desired per unit area. After three weeks, the degree of damage to the plants is rated in % damage in comparison to the development of the untreated control.

The figures denote:

0%=no action (like untreated control)

100%=total destruction

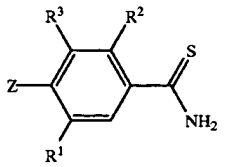
TABLE C

Post-emergence test/greenhouse

Active compound (Synthesis Example Number)	Application rate (g/ha)	Wheat	Maize	Abutilon	Amaranthus	Chenopodium	Solanum	Veronica
19	4	5	20	95	95	95	100	100
20	4	0	15	100	95	95	100	95
21	4	5	60	90	100	70	100	100
22	30	15	0	100	100	40	100	20
23	30	0	50	95	—	90	100	100
24	30	15	70	100	100	100	100	100
25	15	0	50	100	100	100	100	100
26	15	0	30	50	90	50	50	100
5	15	10	20	100	100	100	100	100
3	30	10	30	100	100	100	100	100
6	8	30	50	100	100	100	100	95
7	60	10	50	100	100	95	100	95
8	60	10	30	100	100	100	100	100
9	60	10	30	100	100	100	100	100
1	15	10	50	100	95	95	100	100
12	8	10	30	100	100	95	100	100
13	15	0	30	95	100	80	100	90
16	60	20	60	95	100	100	100	100
17	8	10	10	100	100	95	100	100
28	30	0	30	100	100	90	100	100
29	8	5	0	70	100	90	100	95
30	8	0	50	100	100	95	100	70
31	8	0	70	100	100	90	100	100
32	4	15	30	100	100	95	100	100
33	4	20	60	100	100	100	100	100
34	15	0	30	100	100	100	100	100
35	30	0	25	100	100	90	100	95
40	125	10	5	50	70	100	100	90
41	15	20	50	100	80	90	100	95
43	15	0	50	100	95	100	100	100
44	8	0	15	100	100	100	95	100
45	8	10	40	95	95	95	100	—
46	8	15	20	100	100	95	100	100
47	8	10	10	100	100	95	100	100
48	8	5	60	100	100	80	100	100
49	8	0	60	60	100	10	100	100
50	15	5	70	100	95	80	100	95
51	15	15	60	100	100	70	100	100

What is claimed is:

1. A substituted aromatic thiocarboxamide of the formula (I)



(I)

wherein

R^1 represents hydrogen, fluorine, chlorine or bromine,

R^2 represents the following group

$$—A^1—A^2—A^3$$

in which

A^1 represents a single bond, or represents oxygen, sulphur, —SO—, —SO_2—, —CO— or the group —$N(A^4)$—, in which A^4 represents hydrogen, hydroxyl, C_1–C_4-alkyl, C_3–C_4-alkenyl, C_3–C_4-alkinyl, C_1–C_4-alkoxy, phenyl, C_1–C_4-alkylsulphonyl or phenylsulphonyl,

A^1 additionally represents in each case optionally fluorine- or chlorine-substituted C_1–C_6-alkanediyl,

C_2–C_6-alkenediyl, C_2–C_6-alkinediyl, C_3–C_6-cycloalkanediyl, C_3–C_6-cycloalkenediyl or phenylene,

A^2 represents a single bond, or represents oxygen, sulphur, —SO—, —SO_2—, —CO— or the group —N(A^4)—, in which A^4 represents hydrogen, hydroxyl, C_1–C_4-alkyl, C_3–C_4-alkenyl, C_3–C_4-alkinyl, C_1–C_4-alkoxy, phenyl, C_1–C_4-alkylsulphonyl or phenylsulphonyl,

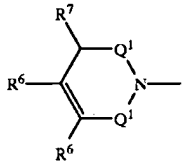
A^2 additionally represents in each case optionally fluorine- or chlorine-substituted C_1–C_6-alkanediyl, C_2–C_6-alkenediyl, C_2–C_6-alkinediyl, C_3–C_6-cycloalkanediyl, C_3–C_6-cycloalkenediyl or phenylene,

A^3 represents hydrogen, hydroxyl, amino, cyano, isocyano, thiocyanato, nitro, carboxyl, carbamoyl, thiocarbamoyl, sulpho, chlorosulphonyl, halogen, or represents in each case optionally halogen- or C_1–C_4-alkoxy-substituted alkyl, alkoxy, alkylthio, alkylsulphinyl, alkylsulphonyl, alkylamino, dialkylamino, alkoxycarbonyl or dialkoxy(thio) phosphoryl having in each case 1 to 6 carbon atoms in the alkyl groups, or represents in each case optionally halogen-substituted alkenyl, alkenyloxy, alkenylamino, alkylideneamino, alkenyloxycarbonyl, alkinyl, alkinyloxy, alkinylamino or alkinyloxycarbonyl having in each case 2 to 6 carbon atoms in the alkenyl, alkylidene or alkinyl groups, or represents in each case optionally halogen-, cyano-, carboxyl-, C_1–C_4-alkyl- and/or C_1–C_4-alkoxy-carbonyl-substituted cycloalkyl, cycloalkyloxy, cycloalkylalkyl, cycloalkylalkoxy, cycloalkylideneamino, cycloalkyloxycarbonyl or cycloalkylalkoxycarbonyl having in each case 3 to 6 carbon atoms in the cycloalkyl groups and optionally 1 to 4 carbon atoms in the alkyl groups, or represents in each case optionally nitro-, cyano-, carboxyl-, halogen-, C_1–C_4-alkyl-, C_1–C_4-halogenoalkyl-, C_1–C_4-alkyloxy-, C_1–C_4halogenoalkyloxy- and/or C_1–C_4-alkoxy-carbonyl-substituted phenyl, phenyloxy, phenyl-C_1–C_4-alkyl, phenyl-C_1–C_4-alkoxy, phenyloxycarbonyl or phenyl-C_1–C_4-alkoxycarbonyl, (in each case optionally totally or partially hydrogenated) pyrrolyl, pyrazolyl, imidazolyl, triazolyl, furyl, thienyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, oxadiazolyl, thiadiazolyl, pyridinyl, pyrimidinyl, triazinyl, pyrazolyl-C_1–C_4-alkyl, furyl-C_1–C_4-alkyl, thienyl-C_1–C_4-alkyl, oxazolyl-C_1–C_4-alkyl, isoxazole-C_1–C_4-alkyl, thiazole-C_1–C_4-alkyl, pyridinyl-C_1–C_4-alkyl, pyrimidinyl-C_1–C_4-alkyl, pyrazolylmethoxy or furylmethoxy, or represents perhydropyranylmethoxy or pyridylmethoxy,

R^3 represents hydrogen, fluorine, chlorine or bromine or together with R^2 represents an alkanediyl or alkenediyl group having in each case up to 4 carbon atoms which optionally contains at the beginning (or end) or within the hydrocarbon chain an oxygen atom, a sulphur atom, an SO_2 group, an NH group, an N—C_1–C_4-alkyl group, a carbonyl group and/or a thiocarbonyl group, and

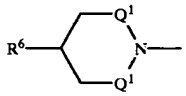
Z represents Z^3:

(Z^3)



or Z^{15}:

(Z^{15})



wherein

Q^1 represents a group from the series —CO—, —CS—, —CH_2—, —CH(OH)—, —CHCl—, —CHBr—, —C(=CH_2)—, —C(=CHF)—, —C(=CF_2)—, —C(=CHCl)—, —C(=CHBr)—, —C(=$CHOCHF_2$)—, —C (=$CHOCF_3$)—, —C(=$CHOCH_2CF_3$)—,

R^6 represents hydrogen, amino, nitro, cyano, carboxyl, carbamoyl, fluorine, chlorine, bromine, methyl, ethyl, n- or i-propyl, cyclopropyl, difluoromethyl, trifluoromethyl, chlorodifluoromethyl, methoxy, ethoxy, n- or i-propoxy, difluoromethoxy, trifluoromethoxy, chlorodifluoro-methoxy, methylthio, ethylthio, n- or i-propylthio, difluoromethylthio, trifluoromethylthio, chlorodifluoromethylthio, methylamino, ethylamino, n- or i-propylamino, dimethylamino, diethylamino, methoxycarbonyl or ethoxycarbonyl, and

R^7 represents hydrogen, hydroxyl, amino, cyano, methyl, ethyl, n- or i-propyl, difluoromethyl, methoxy, ethoxy, n- or i-propoxy.

2. A substituted aromatic thiocarboxamide of the formula (I) according to claim 1, wherein

R^1 represents hydrogen, fluorine or chlorine,

R^2 represents the following group

—A^1—A^2—A^3

in which

A^1 represents a single bond, or represents oxygen, sulphur, —SO—, —SO_2—, —CO— or the group —N(A^4)—, in which A^4 represents hydrogen, hydroxyl, methyl, ethyl, n- or i-propyl, methoxy, ethoxy, n- or i-propoxy, methylsulphonyl or ethylsulphonyl,

A^1 additionally represents methylene, ethane-1,1-diyl, ethane-1,2-diyl, propane-1,1-diyl, propane-1,2-diyl, propane-1,3-diyl, ethene-1,2 -diyl, propene-1,2-diyl, propene-1,3-diyl, ethine-1,2-diyl, propine-1,2-diyl or propine-1,3-diyl,

A^2 represents a single bond, or represents oxygen, sulphur, —SO—, —SO_2—, —CO— or the group —N(A^4)—, in which A^4 represents hydrogen,

hydroxyl, methyl, ethyl, n- or i-propyl, methoxy, ethoxy, n- or i-propoxy, methylsulphonyl, ethylsulphonyl, n- or i-propylsulphonyl or phenylsulphonyl,

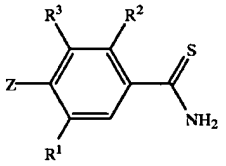
A^2 aditionally represents methylene, ethane-1,1-diyl, ethane-1,2-diyl, propane-1,1-diyl, propane-1,2-diyl, propane-1,3-diyl, ethene-1,2-diyl, propene-1,2-diyl, propene-1,3-diyl, ethine-1,2-diyl, propine-1,2-diyl or propine-1,3-diyl,

A^3 represents hydorgen, hydroxyl, amino, cyano, nitro, carboxyl, carbamoyl, sulpho, fluorine, chlorine, bromine, or represents in each case optionally fluorine-, chlorine-, methoxy- or ethoxy-substituted methyl, ethyl, n- or i-propyl, n-, i-, s- or t-butyl, n-, i-, s- or t-pentyl, methoxy, ethoxy, n- or i-propoxy, n-, i-, s- or t-butoxy, n-, i-, s- or t-pentyloxy, methylthio, ethylthio, n- or i-propylthio, n-, i-, s-, or t-butylthio, methylsulphinyl, ethylsulphinyl, n- or i-propylsulphinyl, methylsulphonyl, ethylsulphonyl, n- or i-propylsulphonyl, methylamino, ethylamino, n- or i-propylamino, n-, i-, s- or t-butylamino, dimethylamino, diethylamino, methoxycarbonyl, ethoxycarbonyl, n- or i-propoxycarbonyl, dimethoxy-phosphoryl, diethoxyphosphoryl, dipropoxy-phosphoryl or diisopropoxyphosphoryl, or represents in each case optionally fluorine- or chlorine-substituted propenyl, butenyl, propenyloxy, butenyloxy, propenylamino, butenylamino, propylideneamino, butylideneamino, propenyloxycarbonyl, butenyloxycarbonyl, propinyl, butinyl, propinyloxy, butinyloxy, propinylamino, butinylamino, propinyloxycarbonyl or butinyloxycarbonyl, or represents in each case optionally fluorine-, chlorine-, cyano-, carboxyl-, methyl-, ethyl-, n- or i-propyl-, methoxycarbonyl- or ethoxycarbonyl-substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopropyloxy, cyclobutyloxy, cyclopentyloxy, cyclohexyloxy, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, cyclopropylmethoxy, cyclobutylmethoxy, cylcopentylmethoxy, cyclohexylmethoxy, cyclopentylideneamino, cyclohexylideneamino, cyclopentyloxycarbonyl, cyclohexyloxycarbonyl, cyclopentylmethoxycarbonyl or cyclohexylmethoxycarbonyl, or represents in each case optionally nitro-, cyano-, carboxyl-, fluorine-, chlorine-, bromine-, methyl-, ethyl-, n- or i-propyl-, thifluoromethyl-, methoxy-, ethoxy-, n- or i-propoxy-, difluoromethoxy-, trifluoromethoxy-, methoxycarbonyl- and/or ethoxycarbonyl-substituted phenyl, phenyloxy, benzyl, phenylethyl, benzyloxy, phenyloxycarbonyl, benzyloxycarbonyl, (in each case optionally completely or partially hydrogenated) pyrrolyl, pyrazolyl, imidazolyl, triazolyl, furyl, thienyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, oxadiazolyl, thiadiazolyl, pyridinyl, pyrimidinyl, triazinyl, pyrazolylmethyl, furylmethyl, thienylmethyl, oxazolylmethyl, isoxazolemethyl, thiazolmethyl, pyridinylmethyl, pyrimidinylmethyl, pyrazolylmethoxy, furylmethoxy or pyridylmethoxy, and

R^3 represents hydrogen, fluorine or chlorine or together with R^2 represents an alkanediyl or alkenediyl group having in each case 1 to 3 carbon atoms which optionally contains at the beginning (or end) or within the hydrocarbon chain an oxygen atom, a sulphur atom, an NH group, an N-methyl group, a carbonyl group and/or a thiocarbonyl group.

3. A process for the preparation of a substituted aromatic thiocarboxamide of the formula (I)

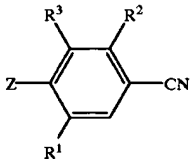
(I)



in which R^1, R^2, R^3 and Z have the meanings given in claim 1,

comprising reacting a substituted aromatic nitrile of the formula (II)

(II)



in which

R^1, R^2, R^3 and Z have the meanings indicated above,

with hydrogen sulphide (H_2S) or with thioacetamide, optionally in the presence of a reaction auxiliary and optionally in the presence of a diluent.

4. A herbicidal composition comprising a herbicidally effective amount of at least one substituted aromatic thiocarboxamide of the formula (I) according to claim 1 or 2 and at least one extender and/or surfactant.

5. A method of combatting unwanted plants comprising applying to said plants and/or their habitat a herbicidally effective amount of at least one substituted aromatic thiocarboxamide of the formula (I) according to claim 1 or 2.

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